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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,347	12/15/2003	Joel D. Limmer	169.12-0612	4641

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KINNEY & LANGE, P.A.  
THE KINNEY & LANGE BUILDING  
312 SOUTH THIRD STREET  
MINNEAPOLIS, MN 55415-1002

EXAMINER

CAO, ALLEN T

ART UNIT PAPER NUMBER

2652

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/736,347	Applicant(s) LIMMER ET AL.	
	Examiner Allen T. Cao	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/15/03</u> | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 9, 14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Gill et al (US. 5,561,570).

Gill et al discloses an actuator for data storage devices, the actuator comprising an actuator arm 160 having a proximal end and a distal end, the actuator arm being rotatable in a rotational plane for supporting a transducer 133 with respect to a data storage medium 200; and a head gimbal assembly 130 connected to the distal end of the actuator arm 160 at an inclined angle with respect to the rotational plane of the actuator arm (see also figures 4A-5), all as set forth in claims 1 and 9. Gill et al also discloses that the head gimbal assembly is concave in a direction facing away from the disc (see figures 4B and 5) as recited in claims 9 and 19.

Regarding claims 6 and 14, Gill et al discloses a mounting block/portion including an angled surface 162; wherein the sloped mounting surface is greater than zero degrees, but less than ninety degrees with respect to a top plane of the mounting block so that the sloped mounting surface creates a downward plane; the head gimbal assembly attached to the sloped mounting surface of the mounting block.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4, 7-8, 10-12, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al in view of Maruyama et al (US. 5,898,540).

Gill et al does not disclose a wedge as set forth in claim 8.

Maruyama et al discloses a disk drive having a wedge 5-5 (figure 21c) with a planar surface and an angled surface; wherein the actuator arm 4 is attached to the planar surface of the wedge and the head gimbal/suspension assembly 7 is attached to the angled surface of the wedge.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the actuator assembly of Gill et al with the wedge as set forth, supra as taught by Maruyama et al.

The rationale is as follows: One of ordinary skill in the art would have been motivated to provide the actuator assembly of Gill et al with the wedge as set forth, supra as taught by Maruyama et al to reduce the inter-frictional/pushes force between the actuator assembly and the media, thus improving the dynamic loading effect and flying height characteristics of the slider in order to improve the read/write characteristics of the head.

Regarding claim 7, Maruyama et al discloses that the wedge is positioned on a side of the actuator arm that is facing the data storage medium.

Regarding claims 2, 10 and 15, either Gill et al or Maruyama discloses that the gimbal assembly has a load beam including a proximal region, a distal region and a hinge region between the proximal region and the distal region.

Regarding claims 4, 12 and 17, Maruyama discloses that the gimbal assembly has a slider 2 for carrying the transducer and a gimbal (71, 72) connecting the slider to the distal region of the load beam.

Regarding claims 3, 11 and 16, Maruyama discloses that the head gimbal assembly has a base plate at the proximate region of the load beam.

5. Claims 5, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al and Maruyama as applied to claim 2 above, and further in view of Davis et al (US. 6,778,362 B1).

Regarding claims 5, 13 and 18, Gill et al as modified by Maruyama does not disclose a notch as recited.

Davis et al, figures (9B and 9C) discloses an actuator assembly having a head suspension assembly 160 including a load beam 166 including a hinge region 180 comprising a notch 164 as recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the head gimbal assembly as set forth of Gill et al as modified by Maruyama with a notch as set forth, supra as taught by Davis et al to provide high torsional frequencies and high sway frequencies and low spring rate to improve flying characteristics.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao  
Primary Examiner

AC  
October 4, 2005